

WHAT IS CLAIMED IS:

1. A liquid crystal display device having on an insulating substrate a plurality of source signal lines, a plurality of gate signal lines, a plurality of pixels, and a source signal line driver circuit for driving the source signal lines,

5 wherein the source signal line driver circuit has a plurality of analog buffer circuits,

 wherein a switching circuit is provided between the analog buffer circuits and the source signal lines,

 wherein the plurality of source signal lines and the plurality of analog buffer
10 circuits constitute a circuit group, and

 wherein the source signal lines in the circuit group connected to the analog buffer circuits in the circuit group are periodically switched by the switching circuit their connections to different circuits.

15 2. A liquid crystal display device having on an insulating substrate a plurality of source signal lines, a plurality of gate signal lines, a plurality of pixels, and a source signal line driver circuit for driving the signal lines,

 wherein the source signal line driver circuit has a plurality of analog buffer circuits,

20 wherein a switching circuit is provided between the analog buffer circuits and the source signal lines,

 wherein the plurality of source signal lines and the plurality of analog buffer circuits constitute a circuit group, and

 wherein the source signal lines in the circuit group connected to analog buffer
25 circuits in the circuit are switched in a random timing by the switching circuit their connections to different circuits.

 3. A liquid crystal display device having on an insulating substrate a plurality of pixels, a plurality of source signal lines, a plurality of gate signal lines, and a source
30 signal line driver circuit, the source signal line driver circuit having a plurality of analog

buffer circuits to drive the source signal lines,

wherein a switching circuit is provided between the analog buffer circuits and the source signal lines,

wherein n (n is a natural number and is equal to or larger than 2) source signal
5 lines and n analog buffer circuits constitute a circuit group,

wherein a set of n periods is periodically repeated, and

wherein the source signal lines in the circuit group connected to analog buffer circuits in the circuit group are switched in every period by the switching circuit their connections to different circuits.

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4. A liquid crystal display device having on an insulating substrate a plurality of pixels, a plurality of source signal lines, a plurality of gate signal lines, and a source signal line driver circuit, the source signal line driver circuit having a plurality of analog buffer circuits to drive the source signal lines,

15 wherein a switching circuit is provided between the analog buffer circuits and the source signal lines,

wherein n (n is a natural number and is equal to or larger than 2) source signal lines and n analog buffer circuits constitute a circuit group,

wherein a set of n periods is repeated in a random timing, and

20 wherein the source signal lines in the circuit group connected to analog buffer circuits in the circuit are switched in every period by the switching circuit their connections to different circuits.

25 5. A liquid crystal display device having on an insulating substrate a plurality of pixels, a plurality of source signal lines, a plurality of gate signal lines, and a source signal line driver circuit, the source signal line driver circuit having analog buffer circuits to drive the source signal lines,

wherein a switching circuit is provided between the analog buffer circuits and the source signal lines,

30 wherein n (n is a natural number and is equal to or larger than 2) source signal

lines and n analog buffer circuits constitute a circuit group,

wherein a set of n periods is periodically repeated, and

wherein, in an r -th period (r is a natural number that satisfies $1 \leq r \leq n$), the switching circuit connects an m -th source signal line (m is a natural number that satisfies
5 $1 \leq m \leq n - r + 1$) in the circuit group to an $(m + r - 1)$ -th analog buffer circuit and an l -th source signal line (l is a natural number that satisfies $n - r + 2 \leq l \leq n$) to an $(l - n + r - 1)$ -th analog buffer circuit, respectively.

6. A liquid crystal display device having on an insulating substrate a plurality of
10 pixels, a plurality of source signal lines, a plurality of gate signal lines, and a source signal line driver circuit, the source signal line driver circuit having analog buffer circuits to drive the source signal lines,

wherein a switching circuit is provided between the analog buffer circuits and the source signal lines,

15 wherein n (n is a natural number and is equal to or larger than 2) source signal lines and n analog buffer circuits constitute a circuit group,

wherein a set of n periods is repeated in a random timing, and

wherein, in an r -th period (r is a natural number that satisfies $1 \leq r \leq n$), the switching circuit connects an m -th source signal line (m is a natural number that satisfies
20 $1 \leq m \leq n - r + 1$) in the circuit group to an $(m + r - 1)$ -th analog buffer circuit and an l -th source signal line (l is a natural number that satisfies $n - r + 2 \leq l \leq n$) to an $(l - n + r - 1)$ -th analog buffer circuit, respectively.

7. A liquid crystal display device according to claim 1, wherein the analog buffer
25 circuits are source follower circuits.

8 A liquid crystal display device according to claim 2, wherein the analog buffer circuits are source follower circuits.

30 9. A liquid crystal display device according to claim 3, wherein the analog buffer

circuits are source follower circuits.

10. A liquid crystal display device according to claim 4, wherein the analog buffer circuits are source follower circuits.

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11. A liquid crystal display device according to claim 5, wherein the analog buffer circuits are source follower circuits.

12. A liquid crystal display device according to claim 6, wherein the analog
10 buffer circuits are source follower circuits.

13. A liquid crystal display device according to claim 1, wherein the analog buffer circuits are voltage follower circuits.

14. A liquid crystal display device according to claim 2, wherein the analog
15 buffer circuits are source follower circuits.

15. A liquid crystal display device according to claim 3, wherein the analog buffer circuits are source follower circuits.

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16. A liquid crystal display device according to claim 4, wherein the analog buffer circuits are source follower circuits.

17. A liquid crystal display device according to claim 5, wherein the analog
25 buffer circuits are source follower circuits.

18. A liquid crystal display device according to claim 6, wherein the analog buffer circuits are source follower circuits.

19. An electronic equipment comprising a liquid crystal display device according
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to claim 1.

20. An electronic equipment comprising a liquid crystal display device according to claim 2.

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21. An electronic equipment comprising a liquid crystal display device according to claim 3.

22. An electronic equipment comprising a liquid crystal display device according to claim 4.

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23. An electronic equipment comprising a liquid crystal display device according to claim 5.

24. An electronic equipment comprising a liquid crystal display device according to claim 6.

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25. A method of driving a liquid crystal display device having on an insulating substrate a plurality of source signal lines, a plurality of gate signal lines, a plurality of pixels, and a source signal line driver circuit for driving the source signal lines,

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wherein the source signal line driver circuit has a plurality of analog buffer circuits,

wherein the plurality of source signal lines and the plurality of analog buffer circuits constitute a circuit group, and

25 wherein the source signal lines in the circuit group are periodically driven by the different analog buffer circuits in the circuit group, respectively.

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26. A method of driving a liquid crystal display device having on an insulating substrate a plurality of source signal lines, a plurality of gate signal lines, a plurality of pixels, and a source signal line driver circuit for driving the source signal lines,

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wherein the source signal line driver circuit has a plurality of analog buffer circuits,

wherein the plurality of source signal lines and the plurality of analog buffer circuits constitute a circuit group, and

5 wherein the source signal lines in the circuit group are driven in a random timing by the different analog buffer circuits in the circuit group, respectively.

27. A method of driving a liquid crystal display device having on an insulating substrate a plurality of pixels, a plurality of source signal lines, a plurality of gate signal
10 lines, and a source signal line driver circuit, the source signal line driver circuit having a plurality of analog buffer circuits to drive the source signal lines,

wherein n (n is a natural number and is equal to or larger than 2) source signal lines and n analog buffer circuits constitute a circuit group,

wherein a set of n periods is periodically repeated, and

15 wherein the source signal lines in the circuit group are driven in every period by the different analog buffer circuits in the circuit group, respectively.

28. A method of driving a liquid crystal display device having on an insulating substrate a plurality of pixels, a plurality of source signal lines, a plurality of gate signal
20 lines, and a source signal line driver circuit, the source signal line driver circuit having a plurality of analog buffer circuits to drive the source signal lines,

wherein n (n is a natural number and is equal to or larger than 2) source signal lines and n analog buffer circuits constitute a circuit group,

wherein a set of n periods is repeated in a random timing, and

25 wherein the source signal lines in the circuit group are driven in every period by the different analog buffer circuits in the circuit group, respectively

29. A method of driving a liquid crystal display device having on an insulating substrate a plurality of pixels, a plurality of source signal lines, a plurality of gate signal
30 lines, and a source signal line driver circuit, the source signal line driver circuit having

analog buffer circuits to drive the source signal lines,

wherein n (n is a natural number and is equal to or larger than 2) source signal lines and n analog buffer circuits constitute a circuit group,

wherein a set of n periods is periodically repeated, and

5 wherein, in an r -th period (r is a natural number that satisfies $1 \leq r \leq n$), an m -th source signal line (m is a natural number that satisfies $1 \leq m \leq n - r + 1$) in the circuit group is driven by an $(m + r - 1)$ -th analog buffer circuit and an l -th source signal line (l is a natural number that satisfies $n - r + 2 \leq l \leq n$) is driven by an $(l - n + r - 1)$ -th analog buffer circuit.

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30. A method of driving a liquid crystal display device having on an insulating substrate a plurality of pixels, a plurality of source signal lines, a plurality of gate signal lines, and a source signal line driver circuit, the source signal line driver circuit having analog buffer circuits to drive the source signal lines,

15 wherein n (n is a natural number and is equal to or larger than 2) source signal lines and n analog buffer circuits constitute a circuit group,

wherein a set of n periods is repeated in a random timing, and

wherein, in an r -th period (r is a natural number that satisfies $1 \leq r \leq n$), an m -th source signal line (m is a natural number that satisfies $1 \leq m \leq n - r + 1$) in the circuit
20 group is driven by an $(m + r - 1)$ -th analog buffer circuit and an l -th source signal line (l is a natural number that satisfies $n - r + 2 \leq l \leq n$) is driven by an $(l - n + r - 1)$ -th analog buffer circuit.

31. A method of driving a liquid crystal display device according to claim 25,
25 wherein the analog buffer circuits are source follower circuits.

32. A method of driving a liquid crystal display device according to claim 26,
wherein the analog buffer circuits are source follower circuits.

30 33. A method of driving a liquid crystal display device according to claim 27,

wherein the analog buffer circuits are source follower circuits.

34. A method of driving a liquid crystal display device according to claim 28,
wherein the analog buffer circuits are source follower circuits.

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35. A method of driving a liquid crystal display device according to claim 29,
wherein the analog buffer circuits are source follower circuits.

36. A method of driving a liquid crystal display device according to claim 30,
10 wherein the analog buffer circuits are source follower circuits.

37. A method of driving a liquid crystal display device according to claim 25,
wherein the analog buffer circuits are voltage follower circuits.

15 38. A method of driving a liquid crystal display device according to claim 26,
wherein the analog buffer circuits are source follower circuits.

39. A method of driving a liquid crystal display device according to claim 27,
wherein the analog buffer circuits are source follower circuits.

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40. A method of driving a liquid crystal display device according to claim 28,
wherein the analog buffer circuits are source follower circuits.

41. A method of driving a liquid crystal display device according to claim 29,
25 wherein the analog buffer circuits are source follower circuits.

42. A method of driving a liquid crystal display device according to claim 30,
wherein the analog buffer circuits are source follower circuits.

30 43. A liquid crystal display device according to claim 1, wherein the switching

circuit comprises an analog switching circuit.

44. A liquid crystal display device according to claim 2, wherein the switching circuit comprises an analog switching circuit.

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45. A liquid crystal display device according to claim 3, wherein the switching circuit comprises an analog switching circuit.

46. A liquid crystal display device according to claim 4, wherein the switching
10 circuit comprises an analog switching circuit.

47. A liquid crystal display device according to claim 5, wherein the switching circuit comprises an analog switching circuit.

15 48. A liquid crystal display device according to claim 6, wherein the switching circuit comprises an analog switching circuit.